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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,377	07/10/2003	Hiroaki Nemoto	NITT.0147	1283
38327	7590	04/20/2006	EXAMINER	
REED SMITH LLP			RICKMAN, HOLLY C	
3110 FAIRVIEW PARK DRIVE, SUITE 1400			ART UNIT	
FALLS CHURCH, VA 22042			PAPER NUMBER	

1773

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/616,377	Applicant(s) NEMOTO ET AL.	
	Examiner Holly Rickman	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5,6,8-11,13,14,16,17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-3,5-6,8-11,13-14,16-17,19-26 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3, 5-6, 8-11, 13-14, 16-17, and 19-26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over van de Veerdonk et al. (US 20030235717).

Van de Veerdonk et al. disclose a magnetic recording medium having a substrate, a soft magnetic layer having an oxide surface, a seedlayer and alternating layers of Co and Pt (or Pd). The Co layers contain an additive element such as Cu, Au, or Ag. The reference teaches that the Pt (or Pd) layers are as thin as 0.6 nm (see figures, paragraphs 16, 20-22, 31, 34). It is the Examiner's contention that the structure shown in figures 2-5 show a magnetic layer having

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grains which are more dense (i.e. compact) as compared to the continuous magnetic phase and a continuous nonmagnetic phase that is less dense (i.e. less compact/more spread out) compared to the magnetic grains. Furthermore, the magnetic grains shown in Figures 2-5 meet the claim limitations directed to columnar magnetic grains wherein "columnar" has been broadly interpreted to mean an accumulation arranged vertically. The grains shown in the figures can be considered to be an accumulation of atoms arranged in a vertical direction.

Van de Veerdonk et al. teach all of the limitations of claims 2-3, 5-6, 8-11, 13-14, 16-17, and 19-22 as detailed above, except for: the claimed rate of coercivity decrease upon "extreme" temperature change from 25 to 70 °C, the claimed characteristics of the magnetic torque loop of the recording medium, and the value of the M-H slope parameter.

It is the Examiner's contention that the aforementioned property limitations are inherent in the structure taught by van de Veerdonk et al. by virtue of the fact that the reference teaches a recording medium that has the same structure and composition as the claimed recording medium. Specifically, the reference teaches a superlattice structure having Co based layers containing a non-magnetic grain boundary material, such as Cu, Au or Ag, alternating with Pt layers having a layer thickness of 0.6 or 0.8 nm. As noted in the specification (see p. 10, lines 11-19; p. 14, lines 22-25; p. 21, lines 3-5), the claimed properties noted above are present in superlattice structures of Co/Pt when the Pt layers have thicknesses of 0.8 nm or less and the Co layers (but not the Pt layers) are doped with a paramagnetic element such as Au, Ag or Cu. Thus, one of ordinary skill in the art would expect that the same structures formed from the same materials would exhibit the same properties.

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It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

With respect to the process limitations set forth in claims 2-3 and 21-22, there is no evidence of record to establish that the claimed process limitations result in a product that is materially different from that shown in the prior art. It has been held that when there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

Response to Arguments

4. Applicant's arguments filed 1/31/06 have been fully considered but they are not persuasive.

Applicant argues that van de Veerdonk fails to teach or suggest the claimed columnar grain structure and fails to disclose the claimed thickness range of 0.8 nm or less and instead discloses an overlapping range. It appears that Applicant believes there is a structural distinction between the magnetic grains in the form of "platelets" disclosed in the prior art and the "columnar" structure claimed. However, it is not clear to the examiner that there is any structural distinction. In the absence of a definition of the term "columnar" in the specification,

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the examiner has assigned the term its broadest reasonable interpretation; the term has been interpreted to mean an accumulation arranged vertically. Thus, in the present case, van de Veerdonk discloses grains that are formed from an accumulation of atoms arranged vertically. Any difference between a platelet and a column appears to be an issue of grains size or thickness. However, the magnetic grain size/thickness is not claimed.

With regard to the thickness range of 0.8 nm or less, the examiner maintains that Van de Veerdonk clearly discloses a thickness of 0.6 nm which falls within the claimed range.

Applicant also argues that van de Veerdonk does not disclose or suggest that the spacer layers taught therein could be formed as part of a superlattice structure. It appears that Applicant has interpreted the term superlattice more narrowly than the examiner has. The examiner has interpreted the claim in light of the specification and prior art to merely mean a plurality of alternating layers which are formed from ferromagnetic layers and paramagnetic layers in the instant case. If Applicant believes that the term has a different definition in the specification or the prior art, the examiner asks that the record be clarified.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman
Primary Examiner
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